UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/586,905	07/24/2006	Shuji Miyasaka	2006_1157A	2000

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EXAMINER
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ART UNIT	PAPER NUMBER
2614	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

	Application No.	Applicant(s)
Office Action Summary	10/586,905	MIYASAKA ET AL.
	Examiner	Art Unit	
	LUN-SEE LAO	2614	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>21 October 2008</u>.
2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.
3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>9-15,17 and 19</u> is/are pending in the application.
    4a) Of the above claim(s) <u>1-8,16 and 18</u> is/are withdrawn from consideration.
5)☐ Claim(s) _____ is/are allowed.
6)☒ Claim(s) <u>9-15,17 and 19</u> is/are rejected.
7)☐ Claim(s) _____ is/are objected to.
8)☒ Claim(s) <u>1-8,16 and 18</u> are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.
10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.
    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
    a)☐ All   b)☐ Some * c)☐ None of:
      1.☐ Certified copies of the priority documents have been received.
      2.☐ Certified copies of the priority documents have been received in Application No. _____.
      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)
2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3)☒ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date <u>07-24-2006</u>.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____ .
5)☐ Notice of Informal Patent Application
6)☐ Other: _____.

DETAILED ACTION

Introduction

1. This action is in response to the election filed on 10-21-2008. Applicant elects,

group II, claims 9-15, 17 and 19. Claims 1-8, 16 and 18 are withdrawn from further

consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected group I.

Claims 9-15, 17 and 19 are pending.

Drawings

2. The drawings are objected to under 37 CFR 1.83(a). The drawings must show

every feature of the invention specified in the claims. Therefore, the "an audio decoder

which decodes a coded signal, said decoder comprising: a first coded signal obtained

by coding a two-channel stereo signal downmixed from a multi-channel signal

exceeding two channels, b) a second coded signal obtained by coding information for

generating a multi-channel signal from the stereo signal, and c) a signal representing a

code size of the second coded signal; and a decoding unit operable to decode the

obtained coded signals, and to output a stereo signal" must be shown or the feature(s)

canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in

reply to the Office action to avoid abandonment of the application. Any amended

replacement drawing sheet should include all of the figures appearing on the immediate

prior version of the sheet, even if only one figure is being amended. The figure or figure

number of an amended drawing should not be labeled as "amended." If a drawing figure

is to be canceled, the appropriate figure must be removed from the replacement sheet,

and where necessary, the remaining figures must be renumbered and appropriate

changes made to the brief description of the several views of the drawings for

consistency. Additional replacement sheets may be necessary to show the renumbering

of the remaining figures. Each drawing sheet submitted after the filing date of an

application must be labeled in the top margin as either "Replacement Sheet" or "New

Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner,

the applicant will be notified and informed of any required corrective action in the next

Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

> (b) the invention was patented or described in a printed publication in this or a foreign country or in public
> use or on sale in this country, more than one year prior to the date of application for patent in the United
> States.

3. Claims 9, 12 and 17 are rejected under 35 U.S.C. 102(b) as being anticipated by

Yoshida(JP 2001-100792).

Consider claim 9 Yoshida teaches an audio decoder which decodes a coded signal,

said decoder comprising(see fig.3): an obtaining unit(see fig.3) operable to obtain coded

signals including a) a first coded signal (160) obtained by coding a two-channel stereo

signal downmixed(120) from a multi-channel signal exceeding two channels(see fig.3),

b) a second coded signal (165)obtained by coding information for generating a multi-

channel signal($X(c)$, $X(L)$, $X(R)$) from the stereo signal, and c) a signal representing a

code size (reads on, signal output from 280 and equation 3,4, see detailed description

page 7 [0041]) of the second coded signal; and a decoding unit(250) operable to

decode the obtained coded signals, and to output a stereo signal (see figs 1-4 and

detailed description page 6 [0038]-page 7[0047]).

The limitation follow after the phase "operable to" is not considered positive limitation.

Claim 17 it is essentially similar to claim 9 and is rejected for the reason state above

apropos to claim 9.

Consider claim 12 Yoshida teaches the audio decoder wherein the signal representing

the code size (reads on, (see fig.3,(208) and equation 3,4, see detailed description page

7 [0041]-page 8 [0048]) of the second coded signal read out of the obtained coded

signals is a signal representing the code size of the second coded signal having invalid

data (reads on, (see figs.3-6 and equation 3,4, see detailed description page 7 [0041]-

page 8 [0048]).

Claim Rejections - 35 USC § 103

4.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

5.   Claims 10 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Yoshida(JP 2001-100792) in view of Miyasaka et al. (US PAT. 7,260,540).

Consider claim 10 Yoshida teaches the audio decoder, wherein said decoding unit includes: a first coded signal readout unit (see fig.3(260)) operable to read the first coded signal(160) out of the obtained coded signals; a code size readout unit(reads on, signal output from 280 and equation 3,4, see detailed description page 7 [0041]) operable to read a signal representing a code size of the second coded signal (165) out of the coded signals; and a first decoding unit (260)operable to decode the first coded signal(160) read out by said first coded signal readout unit, and to output the stereo signal(see figs 1-4 and detailed description page 6 [0038]-page 7[0047]); but Yoshida does not explicitly teach said first coded signal readout unit is operable to skip the second coded signal based on the code size read out by said code size readout unit.

However, Miyasaka teaches said first coded signal readout unit is operable to skip the second coded signal based on the code size read out by said code size readout unit(see fig.12,13 and col. 12 line 27-65).

Therefore, it would have been obvious to one of the ordinary skill in the at the time the invention was made to combine the teaching of Miyasaka into Yoshida to produce a high quality sound output.

The limitation follow after the phase "operable to" is not considered positive limitation.

Consider claim 19 Yoshida teaches an obtaining unit(see fig.3) operable to obtain coded signals including a) a first coded(160) signal obtained by coding a two-channel stereo signal downmixed(120) from a multi-channel signal exceeding two channels(X(Lo), X(Ro)), b) a second coded(165) signal obtained by coding information

for generating a multi-channel signal(X(c), X(L), X(R)) from the stereo signal(X(Lo),

X(Ro)), and c) a signal representing a code size (reads on, 280 and equation 3,4, see

detailed description page 7 [0041]) of the second coded signal; and a decoding

unit(250) operable to decode the obtained coded signals, and to output a stereo

signal(X(Lo), X(Ro)) (see figs 1-4 and detailed description page 6 [0038]-page 7[0047]);

but Yoshida does not explicitly teach a program for running an audio decoder which

decodes a coded signal, said program causing a computer to function as the following

respective units.

   However, Miyasaka teaches a program for running an audio decoder which decodes a

coded signal, said program causing a computer to function as the following respective

units (see col. 4 line 66-co. 5 line 13).

Therefore, it would have been obvious to one of the ordinary skill in the at the time the

invention was made to combine the teaching of Miyasaka into Yoshida to produce a

high speed decoder unit.

     The limitation follow after the phase "operable to" is not considered positive

limitation.

6.   Claims 13-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Yoshida (JP 2001-100792) in view of Tokunaga (JP 2000-295698).

   Consider claim 13 Yoshida teaches the audio decoder wherein said decoding unit

further includes(see fig.3): a first coded signal readout unit (160) operable to read the

first coded signal out of the obtained coded signals; a first decoding unit operable to

decode the first coded signal read out by the first coded signal readout unit, and to

output the stereo signal; a second coded signal readout unit (165) operable to read the

second coded signal out of the coded signals; a second decoding unit(165) operable to

decode a multi-channel signal based on the read-out first coded signal and the read-out

second coded signal(see figs 1-4 and detailed description page 6 [0038]-page 7[0047]);

but Yoshida does not explicitly teach a filter unit operable to perform filter processing to

the decoded multi-channel signal based on the head-related transfer function, and to

output the stereo signal to which virtual surround-sound effect is applied; and a

selecting unit operable to select one of the stereo signal outputted out of the first

decoding unit and the stereo signal to which virtual surround-sound effect is applied

outputted out of said filter unit.

However, Tokunaga teaches a filter unit (see fig.1)operable to perform filter

processing to the decoded multi-channel signal based on the head-related transfer

function(108), and to output the stereo signal to which virtual surround-sound effect is

applied; and a selecting unit operable to select one of the stereo signal outputted out of

the first decoding unit and the stereo signal to which virtual surround-sound effect is

applied outputted out of said filter unit (see figs 1-4 and detailed description page 6

[0021]-page 8[0030])

Therefore, it would have been obvious to one of the ordinary skill in the at the time

the invention was made to combine the teaching of Tokunaga into Hein so that an audio

system as taught by Yoshida could have accurately calculated the frequency bank to

enhance the output signal and provide a virtual surround effect independently of a position of a listener.

The limitation follow after the phase "operable to" is not considered positive limitation.

Consider claims 14 and 15 Yoshida as modified by Tokunaga teaches the audio decoder wherein said first decoding unit is operable to generate a frequency domain signal of the stereo signal, and said filter unit is operable to perform filter processing based on the head-related transfer function to the frequency domain signal of the restored multi-channel signal from the frequency domain signal of the stereo signal, to generate a two-channel frequency domain signal, and subsequently to convert the frequency domain signal to a time domain signal(in Tokunaga, see figs 1-4 and detailed description page 6 [0021]-page 8[0030]); and the audio decoder further comprising: an electric power supplying unit operable to supply electric power in order to drive at least said second decoding unit; and said selecting unit is operable to select the stereo signal from said first decoding unit in a case where the electric supply from said electric supply unit falls to below a predetermined value(in Tokunaga, see figs 1-4 and detailed description page 10 [0035]-page 11[0041]).

The limitation follow after the phase "operable to" is not considered positive limitation.

7.   Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over

Yoshida(JP 2001-100792) as modified by Miyasaka et al. (US PAT. 7,260,540) as

applied to claim 9 above, and further in view of Tokunaga (JP 2000-295698).

  Consider claim 11 Yoshida as modified by Miyasaka does not explicitly teach

     the audio decoder wherein the first coded signal is coded from a stereo signal to

which virtual surround-sound effect is applied beforehand by the operation using a

head-related transfer function, and said first decoding unit is operable to output the

stereo signal to which virtual surround-sound effect is applied.

   However, Tokunaga teaches the audio decoder wherein the first coded signal is

coded from a stereo signal to which virtual surround-sound effect is applied beforehand

by the operation using a head-related transfer function, and said first decoding unit is

operable to output the stereo signal to which virtual surround-sound effect is applied

(see figs 1-4 and detailed description page 6 [0021]-page 8[0030])

     Therefore, it would have been obvious to one of the ordinary skill in the at the time

the invention was made to combine the teaching of Tokunaga into Hein so that an audio

system as taught by Yoshida and Miyasaka could have accurately calculated the

frequency bank to enhance the output signal and provide a virtual surround effect

independently of a position of a listener.

     The limitation follow after the phase "operable to" is not considered positive

limitation.

Election/Restrictions

8. Applicant's election without traverse of group II in the reply filed on 10-21-2008 is

acknowledged. The requirement is deemed proper and is therefore made FINAL.

Conclusion

9.   The prior art made of record and not relied upon is considered pertinent to

applicant's disclosure. Fukuda (US PAT. 5,781,237) is cited to show other related audio

encoder and audio decoder.

10.   Any response to this action should be mailed to:

>   Mail Stop ____(explanation, e.g., Amendment or After-final, etc.)
>
>   Commissioner for Patents
>   P.O. Box 1450
>   Alexandria, VA 22313-1450
> Facsimile responses should be faxed to:
>   **(571) 273-8300**
> Hand-delivered responses should be brought to:
>   Customer Service Window
>   Randolph Building
>   401 Dulany Street
>   Alexandria, VA 22314

Any inquiry concerning this communication or earlier communications from the examiner

should be directed to Lao,Lun-See whose telephone number is (571) 272-7501 The examiner

can normally be reached on Monday-Friday from 8:00 to 5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Vivian Chin can be reached on (571) 272-7848.

Any inquiry of a general nature or relating to the status of this application or proceeding

should be directed to the Technology Center 2600 whose telephone number is (571) 272-2600.

Lao,Lun-See
/LUN-SEE LAO/
Examiner, Art Unit 2614
Patent Examiner

US Patent and Trademark Office
Knox
571-272-7501
Date 12-23-2008

/Vivian Chin/
Supervisory Patent Examiner, Art Unit 2614